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EXAMINER

LAIOS, MARIA J

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/748,197
Filing Date: December 31, 2003
Appellant(s): KIM ET AL.

Matthew T. Gill
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 31, 2008 appealing from the Office action mailed November 1, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The amendment after final rejection filed on March 27, 2008 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6,432,578	Sugita et al.	08/13/2002
US 5,508,122	Narukawa et al.	04/16/1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims **1-4, 7, 8, 10, 13-15, 20 and 23-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita et al. (U.S. Patent Number 6,432,578 B1).

Sugita et al. disclose a spirally wound seal cell (abstract). The cell includes a first electrode plate (20) having a first electrode current collector (21, core body) with a first electrode tab (23). The first electrode has an active material layer coated on at least one surface (22 in Figure 9). Sugita et al. disclose a second electrode plate (30) having a second electrode current collector (31-core body) with a second electrode tab (33). The second electrode has an active material layer (32 in Figure 10). The spirally wound electrode body is formed by rolling the first electrode plate (20) and the second electrode plate (30) with a separator (41) in between (Figure 11). The first electrode tab (23) is incorporated into the electrode current collector in an area of the first electrode plate (20) where the corresponding electrode active material layer (22) is not coated (column 1, lines 50-54, as applied to claims 1, 14, 15, 20, the tri-functional electrode unit is the current collector, the tab, and the active material as defined by appellant).

Sugita et al. disclose that the spirally wound cell is located in an outer can (column 1, line 49). The can has a sealing lid (50), which is connected to an upper portion of the can. The sealing lid has a cap plate (51) and an electrode terminal (54) formed in the cap plate and having an insulating gasket (52) at an outer surface (Figure 12, as applied to claim 14).

Sugita et al. disclose forming a first electrode plate (20) with a first electrode tab (23) at a first electrode current collector that is integrally connected to the first electrode current collector at a winding start portion (column 2, lines 31-37). Sugita et al. disclose forming a second electrode plate (30) having a second electrode current collector with a second electrode tab (33). A separator (41) is prepared and interposed between the first (20) and second (30) electrode plates. The cell configuration is spirally wound as seen in Figure 11 (as applied to claim 8).

Sugita et al. disclose that the first electrode tab (23) is formed by folding a cut portion of the electrode current collector (Figures 14A and B and column 3, lines 56-59). The start portion or completion portion is an arbitrary position depending on what is designated the start and finish of the wind. The completed battery, after winding is finished, could have the start portion or the completion portion at two different positions. Therefore, Sugita et al. disclose that the first electrode tab (23) is at either a start or completion portion of the wind (as applied to claims 2, 3 and 14).

Sugita et al. disclose that an electrode current collector tab (240 in Figure 14b) is formed, which inherently means that the tab extends above the top of the battery roll (as applied to claims 4 and 10).

Sugita et al. disclose that the first or second folded electrode tab partially overlaps with the electrode current collector having the opposite polarity in Figure 11 (as applied to claims 7, 13, and 23). By winding the battery in a jelly-roll style, the electrode current collector of opposite polarity would inherently overlap the first or second electrode tab.

Sugita et al. fails to explicitly disclose the cut portion begins at the lower edge of the electrode to the opposite side of the electrode.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to cut from the edge of the electrode and folding the cut portion toward the upper edge in order to form the tab because Sugita discloses a cut portion in the center of the electrode but it would be easier to manufacture the tab if the cut was made at the lower edge and then folded upward.

By including all of the structural elements of claims 1 and 2, the apparatus is capable of performing the functions recited in claims 24-26. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) “[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP 2114*).

Claims 5, 6, 12, 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita et al. (U.S. Patent Number 6,432,578 B1) as applied to claims 1,8, and 20 above, and further in view of Narukawa et al. (U.S. Patent Number 5,508,122).

The disclosure of Sugita et al. has been discussed above and is incorporated herein.

Sugita et al. do not teach the use of an insulating tape adhered to either surface of the first or second electrode tab.

Narukawa et al. teach that the lead connecting regions, or electrode tabs, are covered with insulating tape (column 1, lines 14-16, as applied to claims 5, 12, and 21).

Narukawa et al. teach that each electrode tab positioned at the outermost has insulating tape on the side toward the center of the spiral electrode, or between the inner and outer surfaces of the first and second electrode tab (column 1, lines 56-59, as applied to claims 6, 22, 27, and 28).

By including all of the structural elements of claim 4, the apparatus is capable of performing the functions recited in claims 27 and 28. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) “[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be

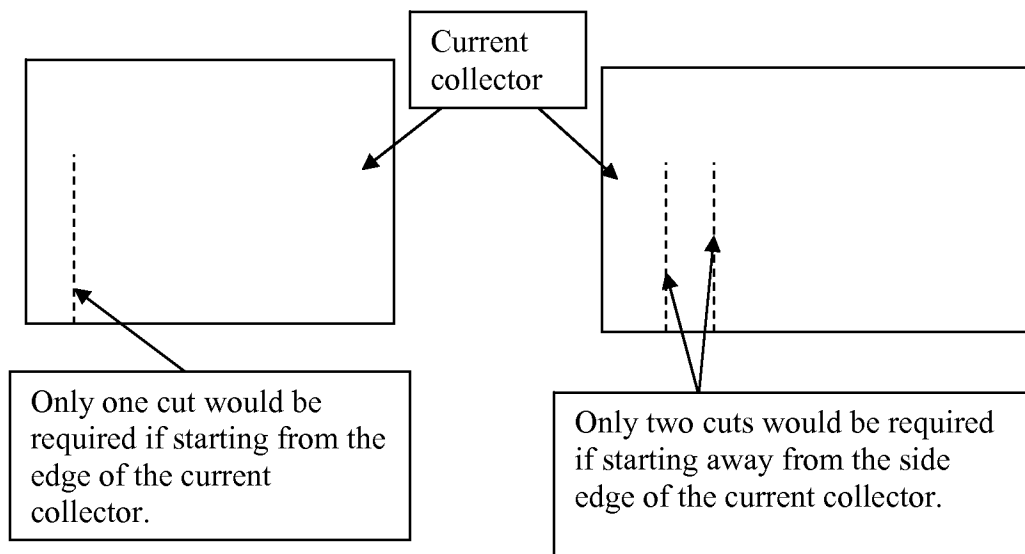
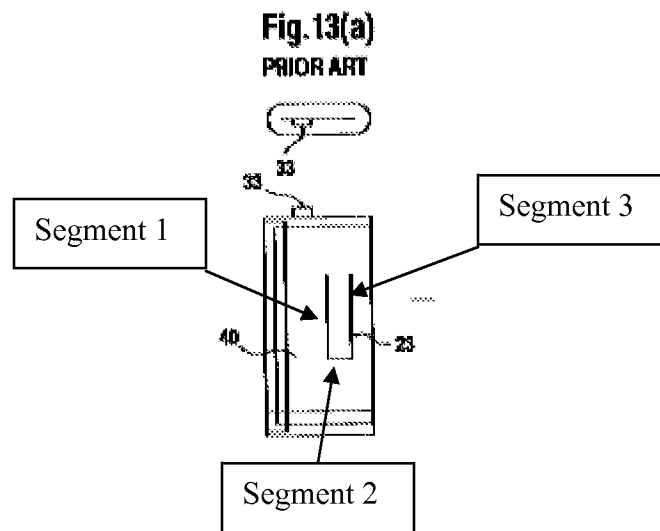
employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP 2114*).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the insulating tape of Narukawa et al. in the battery of Sugita et al. The insulative tape is used to prevent an internal short circuit (column 1, lines 15-16). Having the insulating tape positioned between the inner and outer surface of the first and second electrode tab, would assure that each lead will not touch another electrode (column 1, lines 59-60).

(10) Response to Argument

On Page 7 and Page 10 of the Appellant’s Remarks, Appellant argues that there is insufficient evidence to modify Sugita et al. in order to ease manufacturing.

Sugita et al. teaches the incised portion 23 is formed in the portion of the exposed positive electrode core body (current collector) of the spirally wound electrode body. The incised portion is folded upward to for the positive electrode current collector tab (col. 3 lines 14-18). The incision preformed by the manufacturer would require lasering three different segments of the current collector to be cut (see Figure 13a below). However if the incisions were to start at the lower edge only one or two cuts would be required (see figures below) which would make it easier to manufacture and more efficient by requiring less cuts.



On Page 8 and 11 of the Appellant's Remarks, Appellant argues that given the extensive variations of the electrode tab in Sugita et al., the variation of starting at the incision at the lower edge and folding the cut portion upward would have been included as an example. The fact that this variation was not included led Appellant to presume that the Examiner impermissibly used hindsight to provide a motivation.

In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the appellant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In addition, the Examiner respectfully disagrees with the appellant's argument because Sugita et al. teaches the concept of cutting the uncoated portion of the current collector and folding the cut portion of the current collector to form the electrode tab (Col. 3 lines 14-18) and one of ordinary skill in the art at the time of the invention was made would have the knowledge to shift the electrode tab incision from the center of the current collector to the edge of the current collector and still function the same. The reference does not have to disclose all the possible equivalent embodiments and discloses only the preferred embodiments.

On Page 12 of the Appellant's Remarks, Appellant argues that Sugita et al. teaches away from using an adhesive tape and sites in column 4 lines 64-67 and column 5 lines 1-4 that it is preferable not to use the adhesive tape.

The Examiner agrees that Sugita et al invention is teaching away from the use of the adhesive tape. However the section relied upon for the rejection is the admitted prior art. The admitted prior art includes Figures 9-17 and columns 1 lines 10 to column 4 lines 1-48. In the section of column 4 lines 49-67 and col. 5 lines 1-9, Sugita et al teaches the disadvantages of the admitted prior art.

The Examiner would like to point out that the admitted prior art of Sugita et al teaches the use of a protective tape (25) over the tab (24, col. 3 lines 19-23). The admitted prior art fails to teach that this tape is insulating. The admitted prior art of Narukawa et al. teaches the tape is insulating to prevent an internal short circuit (col. 1 lines 14-16). Furthermore, Sugita teaches that tape on the side toward the center of the spiral electrode unit is used to assure that the lead will not touch another electrode (col. 1 lines 59-60).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

MJL June 4, 2008

Conferees:

/Susy Tsang-Foster/

Supervisory Patent Examiner, Art Unit 1795

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1795